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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

PERKINS, JOHN PATRICK

New U.S. National Stage Application
of International Application No.
PCT/GB99/03857

International Filing Date:
22 November 1999

For: PROCESS AND APPARATUS FOR IRRADIATING FLUIDS

Attention: DO/EO/US

SAH
3A
9-18-01

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Please amend as follows:

In the Claims:

Amend Claims 1-5 and 7 as follows:

1. (Amended) An apparatus for subjecting a fluid to irradiation by high intensity ultrasound, the apparatus comprising a generally cylindrical vessel, and a multiplicity of ultrasonic transducers attached to a wall of the vessel in an array that extends both circumferentially and longitudinally so as to radiate ultrasonic waves at a frequency above 10 kHz into a fluid in the vessel, characterised by the vessel being large enough that each transducer radiates into fluid at least 0.1 m thick, each transducer being connected to a signal generator arranged so the transducer radiates no more than 3 W/cm², the transducers being sufficiently close to each other, and the number of transducers being sufficiently high, that